AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A separating material formed by a process comprising the steps of:

providing a solid substrate selected from the group consisting of polyacrylates, polystyrene, polyethylene oxide, cellulose, cellulose derivatives, polyethersulfone (PES), polypropylene (PP), polysulfone (PSU), polymethylmethacrylate (PMMA), polycarbonate (PC), polyacrylonitrile (PAN), polytetrafluorethylene (PTFE), cellulose acetate (CA), regenerated cellulose, and blends or copolymers of the foregoing, or blends or copolymers with hydrophilizing polymers, preferably with polyvinylpyrollidone (PVP) or polyethyleneoxide (PEO), the solid substrate having a substrate surface, wherein primary or secondary amines are coupled to the substrate surface;

covalently coupling the primary or secondary amines with a thermally labile radical initiator in the presence of a water soluble carbodiimide; and

contacting the substrate surface with a solution of polymerizable monomers,

wherein thermally initiated graft copolymerization of the monomers forms a structure of adjacent functional polymer chains on the substrate surface,

and wherein the graft copolymerization ~~does not require the use of an organic solvent~~ is carried out in aqueous solution.

2. (Previously Presented) A separating material according to claim 1, wherein the solid substrate is a porous polymeric material having a pore size sufficiently large to allow passage of blood, blood plasma, or blood serum through the solid substrate.

3. (Previously Presented) A separating material according to one of claims 1 and 2, wherein the solid substrate is selected from the group consisting of: a membrane, a particle bed, a fibre mat, and beads.

4. (Previously Presented) A separating material according to claim 1, wherein the solid substrate includes a biocompatible material.

5. (Canceled)

6. (Previously Presented) A separating material according to claim 1, wherein the amino-functional groups are primary amino groups.

7. (Previously Presented) A separating material according to 1, wherein the thermally labile radical initiator comprises at least one carboxylic group.

8. (Previously Presented) A separating material according to claim 1, wherein the thermally labile radical initiator includes compounds which decompose to give free radicals upon thermal activation.

9. (Previously Presented) A separating material according to claim 1, wherein the thermally labile radical initiator is 4,4'-azobis-(4-cyanovaleric acid) or 2,2'-azobis-[N-(2-carboxyethyl)-2-methylpropionamidine.

10. (Previously Presented) A separating material according to claim 1, wherein the polymerizable monomers are selected from compounds having a polymerizable double bond.

11. (Previously Presented) A separating material according to claim 1, wherein the polymerizable monomers are selected from the group consisting of:

acrylic acid, methacrylic acid, vinyl compounds, derivatives of acrylic acid, methacrylic acid and vinyl compounds, N,N-Dimethylaminoethyl acrylamide, N,N-Diethylaminoethyl acrylamide, N,N-Dimethylaminopropyl acrylamide (DMPA), N,N-Dimethylaminopropyl methacrylamide, N,N-Dimethylaminoethyl methacrylate, N,N-Diethylaminoethyl methacrylate, N,N-Dimethylaminoethyl acrylate, N-Morpholinoethyl acrylate, N-Morpholinoethyl methacrylate, 1-Vinylimidazole, Trimethylammoniumethyl acrylamide, Trimethylammoniumpropyl methacrylamide, Trimethylammoniumethyl methacrylate, Glycidyl acrylate, Glycidyl methacrylate, Vinyl glycidyl ether, Vinyl glycidyl urethane, 2-Hydroxyethyl methacrylate, 2-Hydroxypropyl methacrylate, Hydroxymethyl methacrylate, N-Vinylpyrrolidone, 2-Vinyl pyridine, 4-Vinyl pyridine, and N-Vinyl-2-methylimidazole.

12. (Previously Presented) A separating material according to claim 1, wherein the polymerizable monomers comprise Dimethylaminopropyl acrylamide (DMPA).

13. (Previously Presented) A separating material according to claim 1, wherein the polymerizable monomers are selected from compounds of the following formula:

$H_2C=C(R^1)-C(O)-X-R^2-N(R^3)_2$,

wherein R^1 = hydrogen, methyl or ethyl group; R^2 = C1-C6-alkyl or aryl group; R^3 = methyl or ethyl group; and X = NH or O.

14. (Currently Amended) A method for producing a separating material comprising the steps of:

providing a solid substrate selected from the group consisting of polyacrylates, polystyrene, polyethylene oxide, cellulose, cellulose derivatives, polyethersulfone (PES), polypropylene (PP), polysulfone (PSU), polymethylmethacrylate (PMMA), polycarbonate (PC), polyacrylonitrile (PAN), polytetrafluorethylene (PTFE), cellulose acetate (CA), regenerated cellulose, and blends or copolymers of the foregoing, or blends or copolymers with hydrophilizing polymers, preferably with polyvinylpyrollidone (PVP) or polyethyleneoxide (PEO), the solid substrate having a substrate surface, wherein primary or secondary amines are coupled to the substrate surface;

covalently coupling the primary or secondary amines with a thermally labile radical initiator in the presence of a water soluble carbodiimide; and

contacting the substrate surface with a solution of polymerizable monomers,

wherein thermally initiated graft copolymerization of the monomers forms a structure including adjacent functional polymer chains on the substrate surface[[.]],

and wherein the graft copolymerization ~~does not require the use of an organic solvent~~ is carried out in aqueous solution.

15. (Previously Presented) A method according to claim 14, wherein the solid substrate is a porous polymeric material having a pore size sufficiently large to allow passage of blood, blood plasma, or blood serum through the solid substrate.

16. (Previously Presented) A method according to claim 14, wherein the solid substrate is selected from the group consisting of: a membrane, a particle bed, a fibre mat, and beads.

17. (Previously Presented) A method according to claim 14, wherein the solid substrate includes a biocompatible material.

18. (Canceled)

19. (Previously Presented) A method according to claim 14, wherein the amino-functional groups are primary amino groups.

20. (Previously Presented) A method according to claim 14, wherein the thermally labile radical initiator comprises at least one carboxylic group.

21. (Previously Presented) A method according to claim 14, wherein the thermally labile radical initiator includes compounds which decompose to give free radicals upon thermal activation.

22. (Previously Presented) A method according to claim 14, wherein the thermally labile radical initiator is 4,4'-azobis-(4-cyanovaleric acid) or 2,2'-azobis-[N-(2-carboxyethyl)-2-methylpropionamide.

23. (Previously Presented) A method according to claim 14, wherein the polymerizable monomers are selected from compounds having a polymerizable double bond.

24. (Previously Presented) A method according to claim 14, wherein the polymerizable monomers are selected from the group consisting of:

acrylic acid, methacrylic acid, vinyl compounds, derivatives of acrylic acid, methacrylic acid and vinyl compounds, N,N-Dimethylaminoethyl acrylamide, N,N-Diethylaminoethyl acrylamide, N,N-Dimethylaminopropyl acrylamide (DMPA), N,N-

Dimethylaminopropyl methacrylamide, N,N-Dimethylaminoethyl methacrylate, N,N-Diethylaminoethyl methacrylate, N,N-Dimethylaminoethyl acrylate, N-Morpholinoethyl acrylate, N-Morpholinoethyl methacrylate, 1-Vinylimidazole, Trimethylammoniumethyl acrylamide, Trimethylammoniumpropyl methacrylamide, Trimethylammoniumethyl methacrylate, Glycidyl acrylate, Glycidyl methacrylate, Vinyl glycidyl ether, Vinyl glycidyl urethane, 2-Hydroxyethyl methacrylate, 2-Hydroxypropyl methacrylate, Hydroxymethyl methacrylate, N-Vinylpyrrolidone, 2-Vinyl pyridine, 4-Vinyl pyridine, and N-Vinyl-2-methylimidazole.

25. (Previously Presented) A method according to claim 14, wherein the polymerizable monomers comprise Dimethylaminopropyl acrylamide (DMPA).

26. (Previously Presented) A method according to claim 14, wherein the polymerizable monomers are selected from compounds of the following formula:

$H_2C=C(R^1)-C(O)-X-R^2-N(R^3)_2$,

wherein R^1 = hydrogen, methyl or ethyl group; R^2 = alkyl or aryl group; R^3 = methyl or ethyl group; and X= NH or O.

27. (Previously Presented) A use of a separating material of claim 1 for the extracorporeal treatment of blood, blood plasma or blood serum.

28. (Previously Presented) A use in accordance with claim 27, wherein the use is for the extracorporeal removal of endotoxins from blood, plasma or serum of septic patients.

29. (Previously Presented) A use of a separating material of claim 1, wherein the use is for affinity adsorption, ion-exchange adsorption, hydrophobic adsorption, hydrophilic adsorption, or affinity adsorption applications.

30. (Previously Presented) A separating column comprising the separating material of claim 1, whereby the separating material includes beads, said beads being packed into the separating column, and the beads having a size sufficient to provide a porosity allowing passage of blood cells through the separating column.

31. (Previously Presented) A separating cartridge, comprising: a tube; and multiple hollow fibre membranes potted into the tube, said tube being fitted with ports, and the hollow fibre membranes having a pore size sufficient to allow passage of blood plasma through the hollow fibre membranes, wherein the hollow fibre membranes include the separating material of claim 1.

32. (Previously Presented) A separating material according the claim 3, wherein the solid substrate is a membrane, said membrane comprising a hollow fibre.

33. (Previously Presented) A separating material according to claim 5, wherein the solid substrate includes blends or copolymers of said compounds.

34. (Previously Presented) A separating material according to claim 33, wherein the blends or copolymers of said compounds further comprise hydrophilizing polymers, polyvinylpyrollidone (PVP), or polyethyleneoxide (PEO).

35. (Previously Presented) A separating material according to claim 8, wherein the thermally labile radical indicator comprises an azo compound or a peroxide.

36. (Previously Presented) A method according to claim 16, wherein the solid substrate is a membrane, said membrane comprising a hollow fibre.

37. (Previously Presented) A method according to claim 18, wherein the solid substrate includes blends or copolymers of said compounds.

38. (Previously Presented) A method according to claim 37, wherein the blends or copolymers of said compounds further comprise hydrophilizing polymers, polyvinylpyrollidone (PVP), or polyethyleneoxide (PEO).

39. (Previously Presented) A method according to claim 21, wherein the thermally labile radical indicator comprises an azo compound or a peroxide.